

CLAIMS

1. A superconducting wire, comprising an oxide superconductor and a cladding metal for cladding said oxide superconductor, a material of said cladding metal having a breaking strain of at least 30% in a stress-strain test.
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2. The superconducting wire according to claim 1, wherein said breaking strain falls within a range of 30% to 58%.
- 10 3. The superconducting wire according to claim 1, wherein said breaking strain falls within a range of 45% to 58%.
4. The superconducting wire according to claim 1, wherein a proportion of said oxide superconductor falls within a range of 25% to 70%.
- 15 5. The superconducting wire according to claim 1, wherein the material of said cladding metal has a maximum stress of at least 180 MPa in the stress-strain test.
6. The superconducting wire according to claim 1, wherein the material of said
20 cladding metal contains silver and/or silver alloy.
7. The superconducting wire according to claim 1, wherein a material of said oxide superconductor contains a bismuth-based oxide superconductor.
- 25 8. The superconducting wire according to claim 1, wherein the material of said cladding metal is silver having an impurity concentration of 10 ppm to 500 ppm.
9. A superconducting multifilamentary wire, comprising a plurality of the

superconducting wires according to claim 1 and a second cladding metal for cladding said superconducting wires.

10. The superconducting multifilamentary wire according to claim 9, having a tape-like shape.

5 11. A method of manufacturing a superconducting wire, comprising the steps of:
filling a metal cylinder made of a material of a cladding metal having a breaking strain falling within a range of 30% to 58% in a stress-strain test, with a raw powder 10 containing a raw material of an oxide superconductor (S101); and
subjecting said metal cylinder filled with said raw powder to plastic working at least once and heat treatment at least once (S103).

12. The method of manufacturing a superconducting wire, according to claim 11, 15 wherein the material of said cladding metal is silver having an impurity concentration of 10 ppm to 500 ppm.

13. A method of manufacturing a superconducting multifilamentary wire, comprising the steps of:

20 filling a metal cylinder made of a material of a cladding metal having a breaking strain falling within a range of 30% to 58% in a stress-strain test, with a raw powder containing a raw material of an oxide superconductor (S201);

subjecting said metal cylinder filled with said raw powder to plastic working at least once to obtain a wire (S203);

25 filling a metal cylinder to serve as a material of a second cladding metal, with a plurality of said wires (S205); and

subjecting said metal cylinder filled with said plurality of said wires to plastic working at least once and heat treatment at least once to obtain a superconducting

multifilamentary wire (S207).

14. The method of manufacturing a superconducting multifilamentary wire according to claim 13, wherein the material of said cladding metal is silver having an impurity concentration of 10 ppm to 500 ppm.

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